

thereby to provide said quantified prediction model for at least feed forward control of said process.

32. (NEW) A modeling system according to claim 31, said nodes being inputs and outputs of said process, and wherein said validator comprises:

an input discretizer, for converting data having continuous values for said inputs into discretized data having discrete input values; and

an output analyzer, for validating relationships between said inputs and said outputs by analyzing said discretized data.

33. (NEW) A modeling system according to claim 32, wherein said relationships are statistical relationships.

34. (NEW) A modeling system according to claim 31, further comprising:

a data generator, for generating sample process data by interpolating between data sets giving process input and output values.

35. (NEW) A modeling system according to claim 34, wherein said interpolation comprises linear interpolation.

36. (NEW) A process modeler for modeling a process as a directed network of nodes, wherein each node represents a relationship between inputs and outputs of a component of said process, each node having at least one input and at least one output, and wherein said process modeler comprises an input for qualitative definitions of inputs and interconnections for entry into said model.

*At Cont.*

37. (NEW) A process modeler according to claim 36, wherein at least one of said nodes corresponds to a physical component of said process.

38. (NEW) A process modeler according to claim 36, wherein at least one of said nodes corresponds to a logical component of said process.

39. (NEW) A process modeler according to claim 36, wherein an output of at least one of said nodes comprises an input to a separate node.

40. (NEW) A process modeler according to claim 36, further comprising a network validator for applying empirical data to said network, thereby to validate the applicability of said network model to said process.

41. (NEW) A process modeler according to claim 40, wherein said network validator is further operable to identify non-influential elements of said network.

42. (NEW) A process modeler according to claim 41, wherein at least one of said non-influential elements comprises one of a group of process elements comprising: an input, an output, and a node interconnection.

43. (NEW) A process modeler according to claim 36, further comprising a network quantifier for applying empirical data to said network, thereby to quantify relationships between said inputs and said outputs.

*AI cont.*

44. (NEW) A process modeler according to claim 36, wherein said interconnections comprise known connections between nodes.

45. (NEW) A process modeler according to claim 36, wherein said interconnections comprise postulated connections between nodes.

46. (NEW) A process modeler according to claim 36, wherein said modeler is further operable to remodel said network to reflect changes to said process.

47. (NEW) A process modeler according to claim 40, wherein said modeler is further operable to remodel said network if said validation shows that said network does not accurately model said process.

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*AI concl.*